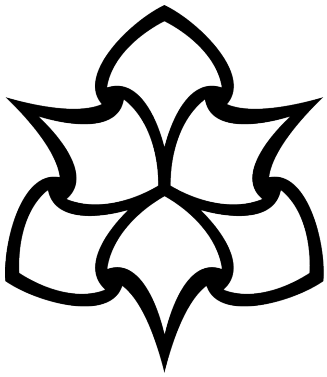

Chapter 19

Design for Social Behaviour Change

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Abstract

Design for behaviour change is by now applied in several areas, such as environmental sustainability, health, safety and crime prevention. Although there is an increasing recognition of the social potential of design, the impact of design on social behaviour change has remained largely ignored and under-researched. This paper reviews the emerging interest in social behaviour change in relation to current approaches of design for behaviour change. It explores what we mean by design for social behaviour change, and analyses the different levels of its application as output, process and intent. The analysis will be underpinned by selected case studies to demonstrate its role and benefits for society.

Keywords:
Social design, social innovation, behaviour change

Introduction

It is widely recognised that design in its various forms, including objects, services, interiors, architecture and environments can play an important role in influencing human behaviour (e.g. Lockton 2012, Brown and Wyatt 2010, Consolvo, McDonald and Landay 2009). Areas of application include environmental sustainability, health, safety and crime prevention. For example, recycling programmes invite people to recycle, cars make people more mobile but walk less, or a certain design of bike stand makes it more difficult to steal them.

In addition, it is becoming increasingly apparent that most behavioural solutions are intrinsically linked to social change, because design does not only influence the interaction we have with its products (Norman 2002:1, 34; Pearce 1995: 166) but also 'how human beings relate to other human beings through the mediating influence of products' (Buchanan 2001:11). For example, public benches not only offer us to rest in public places but at the same time provide places for social encounter; computers have changed the speed and quality of our social interaction (e.g. more emails, fewer handwritten letters); cars and mobile phones have not only made us more mobile, but they have also changed our social interactions and expectations of connectedness.

These examples illustrate that while design may intend to address one issue, it will also have effects in other areas whether intended or not, and that unintended effects can be variously desirable or undesirable. For example, while cars may have been designed to increase mobility in the first instance, they are also substantially impacting on our social connectedness, on our health, and on global sustainability. Similarly, the function of the mobile phone that enables our conversation with the person receiving the call is generally well considered and designed. By contrast, the affect of mobile conversations on people outside the immediate conversation is not generally considered by the design of the phone and leading to often undesirable consequences e.g. with regard to noise pollution and safety issues.

Although there is an emerging recognition of the social significance and complexity of design in the context of design for sustainability (Lockton, Harrison and Stanton 2010, Lockton 2012; Bhamra, Lilley and Tang 2011), the social potential of design for behaviour change has remained largely ignored and under-researched (Chick 2012).

Indeed, current design approaches to social behaviour change appear at times 'anti-social' where they are designed to ignore or reinforce existing social behaviours rather than to question and to consider how to utilise or improve them.

The use of mobile phones described above is one example of this. Public benches are another: while traditional benches offer versatile uses, modern designs are often restrictive to individual seating use. In extreme cases, seats even face in opposite directions, denying social interaction and reinforcing avoidance behaviour rather than offering to consider the multitude of possible social interactions with people in public places (Niedderer 2014: 351) Even more extreme are examples of spikes in the cityscape to prevent homeless sleepers resting in certain places (Petty 2016). In short, current designs regularly reach from ignoring social behaviour to actively disrupting or preventing certain social behaviours, raising attention of the ethical dimension of design.

This article reviews the emerging interest in designing for social behaviour change. It starts with an overview of existing approaches to social issues, including social design, social innovation, social entrepreneurship, social interaction design and others, and analyses them with regard to their position and approach to behaviour change. The discussion further examines the different levels of application of design for social behaviour change, in particular with regard to output, process and intent. It distinguishes different modes and areas of social behaviours and their application. The analysis is underpinned by selected case studies to demonstrate the different areas of the application of design for behaviour change, and its role and benefits for society.

What do we mean by social design?

The recognition of the social dimension of design and its importance for behaviour change has developed for some time, although it has been slow to take hold. Papanek (1984) has offered one of the earliest accounts of social design under the label of 'responsible design' where he considered the environmental and social consequences of design. Two decades later, Margolin has taken up the idea of social design, suggesting a social model of design practice for product design within a process of social service intervention (Margolin and Margolin 2002: 25, Margolin 2002). A number of different and divergent perspectives of social design have emerged during this time and since.

In line with these, *Social design* can be seen as a broad term that brackets the diverse practices and domains concerned with the role of design in human and humanitarian social engagement (Veiga and Almendra 2014), comprising anything from tangible objects to virtual services, from organisational design to design for developing countries. It may for example include designing architecture and urban space for social use (e.g. Popov 2002), social design of virtual worlds, online communities and games (e.g. Robert et al 2011; Taylor 2004, Segura2013), social design approaches for teaching and in the museum (e.g. Gutiérrez and Shirin Vossoughi 2010; Bitgood 2011), manufacturing approaches that draw on social networking (Brambilla, Fraternali, and Vaca 2012) and law (e.g. Ritter 2006: constitution as social design).

This broad understanding and diversity of social design is critically reviewed in two articles: one by Veiga and Almendra (2014) who offer an overview of current social design approaches, and one by Chick (2012), in which she calls for serious research in the area of social innovation in design.

Veiga and Almendra (2014) propose *social design* as an 'umbrella term' for the role of design in the field of socially engaged practices, because it "is the most generally and commonly used term in the discourse of designers" and "it immediately identifies the

realm and scope of action of design and it is a holistic and open term" (p.2). They group current approaches to *social design* into three broad categories: *survival* – addressing humanitarian needs and human rights; *citizenship* – addressing systemic human challenges; and *politics* – relates to the work of institutions and sectors who seek to influence the course of human life (p.10), and approaches within these three categories include

> Social Design, Design for the Base/Bottom of the Pyramid (BoP), Humanitarian Design, Design as Development Aid, Socially Responsible Design or Socially Responsive Design, Design for Social Good, Design for Social Change, Design for Social Impact, Design for Social Innovation, Design for Social Innovation and Sustainability, Social Economic Environmental Design, Useful Design, Transformation Design, Design for Public Good, etcetera. (Veiga and Almendra 2014, p.2)

Further categories could be added to this already broad list, such as socially conscious design (Simmons, 2011), ethically responsible design (Thackara 2005), social interaction design (Huang and Deng 2008), Design with Intent (Lockton et al 2010), mindful design (Niedderer 2014), critical design (Dunne and Raby 2001), and several more.

The diversity of terminology indicates a lack of shared language and discourse (Veiga and Almendra, 2014: 2), which requires some further discussion. For example, social design is also associated with other fields of research and development that share a common social purpose or goal, for example social innovation (TEPSIE 2012, The Young Foundation 2012) and social entrepreneurship (Austin et al, 2006). Social innovation is recognised by the European Union (TEPSIE 2012, The Young Foundation 2012) and defined as the creation of

> new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society's capacity to act (The Young Foundation 2012: 18).

They explicitly promote

> … the social and public good […] inspired by the desire to meet social needs which can be neglected by traditional forms of private market provision and which have often been poorly served or unresolved by services organised by the state. Social innovation can take place inside or outside of public services. (Murray et al, 2010:10).

In other words, social innovation addresses perceived social needs, either through public or private service providers or market forces. These definitions however do not take account of the ownership in this process: generally, the ownership is with those developing social innovation, which may or may not include the stakeholders for whom the intervention is developed in the process. One way to address this is through *social entrepreneurship*, which is closely aligned with social innovation: Social entrepreneurship generally refers to the applications of business expertise and market based skills to primarily create social value, rather than individual and shareholder wealth (Austin et al, 2006). Social entrepreneurship works through and in collaboration with social service provision and social activism. It seeks to enable direct change through enabling individuals on a large scale to change their circumstances (e.g. Martin and Osberg 2007), often through social initiatives such as those reported by Viravaidya (p.008) or Hebel (p.012) in the proceedings of the DRS 2012 conference in Bankok (DRS2012).

Chick relates social innovation and entrepreneurship further to design. Building on references to societal transformation and the development of new products, services and programmes, Chick (2012) charts emerging principles of *design for social innovation* to define design's role in achieving social innovation. Chick's approach is a broad appeal to

the intention of designing for behaviour change, which she underpins with reference to a variety of process-related approaches to address social problems, such as more generic co-design approaches as well as more specific emerging approaches to design for social behaviour change (e.g. Lockton 2012, Lockton, Harrison and Stanton 2010; chapter 6; Tromp, Hekkert and Verbeek 2011; chapter 13).

One of the issues with social design and its sub-categories as proposed by Veiga and Almendra (2014), and the related fields of social innovation and social entrepreneurship is that the term 'social' is used in several different ways. For example, those categories addressing human needs, such as Design for the Base/Bottom of the Pyramid (BoP), Humanitarian Design, or Design as Development Aid, are directed towards the individual's wellbeing in terms of nutrition, health, poverty/affluence, etc. By contrast, in the context of some of the other categories, such as Socially Responsible Design or Socially Responsive Design, or Design for Social Change, 'social' addresses the social relationship and/or the social interaction that people have to regulate their life in living together.

The difference between social good and social interaction is significant in terms of both design focus and approaches. For the purposes of this chapter, we focus on the notion of the social in the latter sense. Social interaction can be regulated on a legal level such as human rights, through policy or systemic interventions, or it can be guided in a 'bottom-up' approach through people's interaction with design. Humans have constructed an enormously intricate social environment to contend with the challenges of the natural environment and thus are fundamentally motivated to create and maintain relationships with other people. For example, social interaction is important in the maintenance of health and wellbeing and the quality of a person's daily interactions is one of the best predictors of wellbeing (Kahneman, 2011). Design can play an important role in changing behaviour and fostering and supporting inter-relationships that benefit human endeavour, not just in health and wellbeing, but also in other areas such as sustainability, safety or crime prevention.

Both Lockton (2012) and Tromp et al (2011) have begun to consider the broad range of human behaviours and experiences to understand better the social influences of the design and use of products and product innovations. Tromp et al (2011) have developed a framework for socially responsible design from the point of the intended user experience, while Lockton (2012: 1) tries to address the problem of user intent. Although focusing mainly on environmental impact, Lockton includes a generally pro-social approach. In contrast to Tromp et al's experience based model, Lockton's model takes a functional approach, which considers motivating (internal constraint) as well as enabling and constraining behaviour (external constraint through design). Complementary to Lockton and Tromp et al's approaches is the mindful design approach by Niedderer (2007, 2013, 2014). Rather than on user experience, it focuses on creating responsible social interaction through designing conscious decision-making opportunities. This gives responsibility to the user for their decisions in acquiring, using and discarding design objects and services in the widest sense, and the interactions they entail.

These selected examples of approaches indicate that design for social behaviour change can variously address the *intention* (engendering responsibility and change), *process* (how to achieve change) or *outcomes* (e.g. user experience) of social design. We discuss these three categories or stages further in the next section.

Design for social behaviour change

The common thread across the different approaches of social design, and more specifically design for social behaviour change, is the aim to influence human interaction or norms that are in the public interest, defined as leading to improvements in the welfare or wellbeing of the general public (Random House, 2016). Given the importance of these intended outcomes, and the role that design plays in influencing them, it is important to better understand design for social behaviour change and its manifestation in both research and practice.

The outcomes of design for behaviour change and their impact are often the key focus of any intervention. What is important to acknowledge here is that such outcomes are the result of a process and that this process is guided by an intention. Moreover, there is an assumption that the intentions that guide design for behaviour change ought to be in the public interest, although this may not necessarily always be the case. It also raises the question about who decides what is in the public interest, and what happens when individual and public interests collide. This means there is clearly an ethical decision to be made when designing for (social) behaviour change. Although this arguably applies to all design, design for behaviour change aims to reflect on and make explicit this ethical responsibility.

In the following, we discuss design for social behaviour change with regard to these three aspects: the intention, the process, and the outcomes of design for social behaviour change. We discuss how these three different stages of designing can help achieve the outlined social aims. In the further text, we use the term 'social design' as a convenient short form for 'design for social behaviour change'.

Social design as an intention

On a conceptual level, design for social behaviour change can be thought of as the desire or motivation to influence human interaction for some perceived social or other benefit and as such as driven or imbued by social intention. In other words, the intention of social design is the application of design skills and processes to create primarily social value.

To illustrate the ascendance of design, the Design Ladder (Danish Design Centre, 2001) usefully describes the shifting role of design, albeit in a business context. The first step is non-design where design plays a negligible role; the second is design as styling where design relates primarily to style and form; the third is design as process where design is used to improve efficiency; and the fourth and final step is design as innovation where design drives all (business) activities. The use of skills and processes is important in design and may be implicit or explicit. However, design is not only the practice of following these processes, nor will following them automatically make someone a social designer, but it is the conceptual lead that makes design significant and relevant with regard to facilitating social change.

Commonly, designers are asked to design according to a given design brief. While a design brief offers certain criteria for addressing a specific issue at hand, on the other it is open to interpretation by the designer. In this context, the intent of the designer can greatly influence the balance between the intent of the client or partner who has provided the brief, the variation in what people who will be effected want and need, and what the designer believes is the right approach both in terms of values and in terms of achieving them. Naturally, this can lead to conflict, where design that is intended to benefit a chosen group of people somehow restricting the choice or wellbeing of a different group of people. For example, traffic junctions that make journeys safer for cyclists may slow down journeys for motorists (Bunn, et al., 2003). In these instances, a cost-benefit analysis may be undertaken or it may be down to the ethical judgement of the design team and wider management. For example, a utilitarian approach states that the chosen action should be

the one that does the greatest good and the least harm for all who are affected (Mill, 1901) – users, customers, employers, residents, shareholders and so forth. However, what constitutes the 'greatest good' and 'least harm' in these cases is open to interpretation. For example, such costs can be assumed to be financial or social, or perhaps concern human dignity. Benefits might be financial or time saving, or the feeling of empowerment on the part of a user or user-group.

This demonstrates that intentions are closely linked to morality and to people's beliefs in the principles that distinguish right from wrong, or good from bad behaviour. Indeed, people may widely differ in their opinions of what is right or wrong, good or bad, based on their philosophy, religion or culture. People's moral principles can both bind them together, and make them blind to other people's interpretations of a better society (Haidt, 2012). While it is still possible for those with opposing views to sincerely want the best for society from their point of view, this constitutes a significant challenge for design for behaviour change. In other words, while social design per se does not make any assertions about the moral principles that underpin or that it should address, when put into the specifics of practice, social design necessarily has to take a position.

What good designers have in common is the desire and intent to improve life for themselves and others by questioning the status quo. In this context, design methods can help designers and other people better understand and respect the principles that other people hold. People everywhere are coming together to take responsibility for championing causes, solving problems or reacting to crises in their community. Many would not describe themselves as designers, entrepreneurs or innovators, or feel comfortable with that terminology, however they share intentions we would associate with social design. As this trend continues, the definition of social design – or a social designer – will begin to blur. The gap between the designer and the user will continue to narrow as people take on both roles, and this might help reduce potential conflicts between the designer's intentions and the wants or needs of users. Allowing people to take an active role in decisions – and designs – that affect society is a key element of democracy. Individuals or organisations that wish to support this type of participatory democracy, for example policy makers or social investors, must provide a supportive environment that gives people the opportunity to work together, develop new skills and abilities, engage in debate and turn their good intentions into action.

Case study 1: Design ingenuity driving activism

This case study looks at the blurring between designers and users, and how the role of user as designer can overcome some of the ethical issues.

Activists, generally, are people with the desire to improve society and who are taking action to promote a social, political, environmental or economic change. Normally driven by a personal cause or struggle, the focus is often on how small changes to a service, system or environment can create new opportunities for people to behave or act differently. Taking this aspiration into design, Markussen (2013: p. 1) defines *design activism* as "design playing a central role in (i) promoting social change, in (ii) raising awareness about values and beliefs or in (iii) questioning the constraints of mass production and consumerism on people's everyday life." Applying his thinking in the context of urban design, he argues for a new framework to understand why and how activism matters, using examples from five categories – walking, dwelling, playing, gardening and recycling – to illustrate his point. For example, in the project "Taking the street", Santiago Cirugeda gives citizens in Seville instructions on how they can transform dumpsters into playful installations to get around local planning legislation, thereby enabling them to take an active role in designing their neighbourhood. The project strengthens the social interactions between local residents, while weakening, or actively resisting, interactions with existing structures of power and

bureaucracy. The people become both the designers and the users, and unheard or hidden social behaviours become visible through the transformation of the dumpster.

Case study 2: Innovation among communities of refugees

This case study looks at the role of organisations in helping people interact and work together to take an active role in decisions that effect their community.

People around the world in communities affected by crisis, for example refugee camps, are often able to overcome significant constraints by working together and adapting to their environment to create new enterprises or systems. This type of innovation, driven by affected communities themselves, is known as 'bottom-up innovation' (Betts, Bloom, & Weaver, 2015). When faced with a specific challenge or intention, people adapt to find solutions, drawing on the support and resources available. While activists may be involved, bottom-up innovation does not necessarily involve protest and may be supported by structures of power. For example, the UN High Commissioner for Refugees (UNHCR) support innovation among refugees to challenge humanitarian norms and fill important gaps in goods and services. For example, in the Za'atari camp in Jordan, residents are active in designing their own communications and information networks. One of the publications, "The Road" magazine, aims to "help make good relations in the camp between refugees and the organisations". This is just one of many communication systems that refugees and aid agencies have designed to create a flow of information and support interaction between internal and external individuals and organisations in the camp.

Social design as a process

On a strategic level, social design can be thought of as the application of tools, methods and activities for the purpose of influencing human interaction for some perceived social or other benefit. There are now many practical tools and methods to help designers and others engaged in the design process think and act creatively at different stages of the innovation process, loosely covering problem identification, idea generation, implementation and monitoring (Mumford, Mobley, Reiter-Palmon, Uhlman, & Doares, 1991). This design process is not based on a single 'innovative' or 'creative' skill, rather, different skills are important at each stage. Not everybody will be – or needs to be – skilled at every stage. Generically, these tools and methods include, but are not limited to, understanding user experiences, ideation, rapid prototyping and visualisation (Mulgan, 2014).

Social design methods more specifically refer to methods that help facilitate the relationship and interaction between designers and the people they are designing with or for in order to understand them and their needs, wants and aspirations better. Cooperating to exchange ideas and expertise enables designers to access people's perspectives, knowledge, skills and abilities to understand a problem or implement an idea. While in the past, creation was largely driven by a designer's expertise and intuition, it is now accepted that this individualistic, passive approach cannot address the complex social issues we face today. Sanders and Stappers (2008) describe the evolution of social design methods from user-centred design, where trained researchers observe largely passive users, to co-design, where users play a more participatory role in idea generation, development and testing. Co-design therefore encompasses the collective creativity of designers and people who are not trained in design. This may happen informally through conversation and networks, or more formally as a part of a structured exercise or paid for service. Cooperation occurs when two or more people observe each other's actions and decide there is enough benefit to invest resources in future interaction. Social design methods facilitate this process, by facilitating communication, observation and empathy with what people really want and need.

Given the growing realisation that the people with direct experience of a particular issue or concern are often the people with the best knowledge and experience of that issue, there is an increasing need for design processes that enable more social, creative and collaborative working. As the gap between designers and users continues to narrow, traditional design processes will become less important, and social design method that focus on inclusivity and interaction between people from different backgrounds will become more relevant. The Social Design Methods Menu by Kimbell and Julier (2012) outlines a range of methods to "understand people's experiences and resources on their own terms" and push for "more effect cross-team and cross organisational working", from describing drivers of change to storyboarding and mapping the service ecology. These methods illustrate the changing design practices described by Sanders and Stappers, and the increasing focus on co-design in which users are active participants in the design process.

Social design processes are changing how people design and who designs. However, the demand for more inclusive, participatory design, in which people are both consumers and designers, must be tempered with the evidence that people are often unaware of their own preferences, don't do what they say, and are not good at introspection (Johansson, Hall, Sikstrom, Tarning, & Lind, 2006). Traditional market research methods often prompt people to post-rationalise decisions that they are unable to explain. This is why designers couple iterative, collaborative methods with ethnographic and experimental methods, avoiding self-report, to generate a deeper understanding of users. There are many toolkits and activities that aim to help people think and act creatively. For example, the Nesta DIY Toolkit provides practical tools to trigger and support social innovation; the Hyper Island Toolbox is a resource for people who want to work creatively and collaboratively; Service Design Tools curated by Roberta Tassi is an open collection of communication tools used in design processes that deal with complex systems; and the Design with Intent toolkit (Lockton, Harrison and Stanton 2010) is a collection of design patterns aimed at socially and environmentally beneficial behaviour change, applicable across product, service, interaction and architectural design.

Case study 3: IDEO Design Kit

This case looks at how a design team used design methods to interact and strengthen their relationship with people in a town to develop a community-based business.

IDEO.org launched the Field Guide to Human-Centred Design in 2015 (IDEO.org, 2015) as a follow up to their original Human-Centered Design Toolkit launched in 2009. The guide is a set of design methods that people can use within the social sector. One example is the case of Asili, a sustainable community-owned health, agricultural and water business in the Democratic Republic of Congo (IDEO.org, 2014). The design team first spent time immersing themselves in the context in which they were designing, conducting interviews with the residents of Bukavu to better understand the social dynamics around health. Following interaction with a lot of people in the area, they conducted a two-day workshop with women from the town who were particularly interested in the Asili service. The women took the lead in the design process, fulfilling the roles of designer, prototype and problem-solver, strengthening the relationship between the design team and the community. They then continued to work with the American Refugee Committee (ARC) to devise a sustainable business tailored to meet the realities that people in the DRC face everyday, including the business model, staffing structure, launch plan and service components. The ARC took a human-centered approach to implementing the vision for Asili, which continues to build a multi-service offer to the local community.

Case study 4: The Knee High Design Challenge

This case looks at how a diverse range of people were supported in using design methods to develop innovative ideas to improve the health and wellbeing of children under five.

The Knee High Design Challenge is a partnership between the Design Council, Guy's and St Thomas' Charity, and Lambeth and Southwark Councils (Britton & Gardiner, 2015). The programme supported 25 teams of people to develop ideas for raising the health and wellbeing of children under five years old. The approach challenged traditional public health improvement programmes, first by researching and reframing problems that existing approaches to public health had so far failed to address. This involved using methods such as ethnographic research, shadowing and in depth interviews, stakeholder engagement, community researcher training, a parenting survey and a toolkit for young children to focus down on three design briefs, offering provocations for action in Lambeth and Southwark. An open call was launched, inviting teams to respond to one of the briefs. Through a staged funding process designed to manage the inherent risk of innovation, a select number of teams were given financial and practical support to transform their good ideas into lasting and effective products and services. The support was tailored for each team, ranging from prototyping to experimental design and business planning. The final six teams included the Good Enough Mums Club, delivering theatrical performances and workshops to improve the emotional wellbeing of mothers; Pop up Parks, creating vibrant spaces in urban environments that encourage children and families to spend more time being playful; and Kids Connect, informing and inspiring families to make use of the under-fives services in their local area. All the services and products funded through the programme were grounded in current evidence but boldly experimented with different ways to make a lasting difference, in contrast to the uniform approach of many public services. Three of the teams are now working with an external evaluation agency to pilot their ideas (Design Council, 2016).

Design for social behaviour change as an outcome

On a pragmatic level, social design can be thought of as the creation of products, services and spaces that influence human interaction for some perceived social or other benefit. The cognitive processes that underpin how we make sense of the world are deeply rooted in the body's interaction with the world. Our behaviour is not simply a product of our own intentions and our thoughts. Decisions and actions must be explained in relation to our environment, and the perceptions and emotions it evokes. How the environment is designed, and all the products that are part of it, therefore plays an important role in determining how people interact, experience and process social information, either consciously or subconsciously.

The ability and motivation to form accurate perceptions of our physical and social environment and to react to incoming information is a key to the maintenance of social relationships. As humans, we have limits in the amount of information we can process (Simon, 1982) therefore our behaviour must be understood in terms of how we deal with social and environmental cues in real time (Clark, 1997). People regularly exploit the environment to reduce the pressure on attention and memory, and to hold or manage information in a social context, for example by using address books to store contact information and Facebook to maintain contacts. Such products or environments not only influence how we interact by offering certain aids and channels for communication. How these products and services are designed can also affect cognitive workload, how accurately people perceive social (and other) information, and the speed with which they react to it.

With regard to designing environments, choice architecture has become an important concept. It refers to how the design of the environment determines the way in which

choices are presented to people and how this can effect decision-making. Heuristics - simple mental shortcuts that people use to form judgements and make decisions - are effective in many circumstances but can sometimes lead to deviations, or biases, from common normative behaviour (Tversky & Kahneman, 1974). Drawing attention to social norms is a typical example. People often use social norms to guide their behaviour in social situations, not always knowingly. Altering the choice architecture is one way of overcoming such biases. Designing products and services so that relevant norms are more salient can help elicit behaviours that are in line with favourable norms (Cialdini & Goldstein, 2004). For example, people who were given either individual (personal norm) or group feedback (descriptive norm) on the amount of household waste they had recycled both showed significant increases from baseline, and compared to the control group, in the total amount of recycled material over a four week period (Schultz, 1999), suggesting a relationship between behaviour change and feedback interventions that target personal and social norms.

The intentions of the designer or choice architect greatly influence the outcomes produced in that they affect our decisions in all manner of ways, either implicitly or explicitly. Therefore, it is an ethical imperative to try to influence choices in a way "that makes the chooser better off" while maintaining freedom of choice (Thaler & Sunstein, 2003). The questions what constitutes an improvement in wellbeing or welfare, however, leads critics to argue that choice architecture may impose costs, limited choice or a reduction of agency.

Just as the environment in general can be designed to influence perceptions and behaviour, so can specific artefacts in that a product's affordances can be designed in terms of functionality and experience through product semantics and semiotics. For example, cars allow people greater mobility and, by extension, to make or keep contact with people outside of their immediate vicinity. However, products are complex, and may have unintended consequences. For example, cars don't just facilitate mobility, but at the same time increase CO_2 emissions. In another example, increased safety was achieved in the redesign of street crossings in the Netherlands and the UK where the shared space model applied through the design, giving all participants equal status and equal responsibility (see case study 5 below). These two brief examples shows that stimulation or regulation of social interaction can be the main purpose of a design, or it can be the means by which to enable another goal. They also demonstrate that the design of the affordances of products and environments are important, and require all stakeholders to take responsibility as well as a more holistic perspective in the design process. The two case studies below illustrate these two points further.

Case study 5: Road safety

This case looks at how redesigning a road to increase road safety can lead to an output that improves the interaction between pedestrians, cyclist and vehicles occupying the same space.

Good design of roads, pavements and junctions is essential for the safety of drivers and pedestrians. The first white line road markings appeared on bends on the London-Folkstone road at Ashford, Kent, in 1914, and there is now a huge array of signs and markings across our streets that aim to change behaviour. The result is often a disagreement between different groups of users over who is being favoured or who is to blame for any resulting problems. Exhibition Road in London attracts over 11 million visitors each year and is the site of many educational institutions, including the V&A, Royal Albert Hall, Natural History Museum and Imperial College London (Transport for London, 2013). The street was redesigned in 2011 with a kerb-free single surface and little street furniture to favour pedestrian use, while allowing flexibility. By reducing the distinction between pavement and road, the idea was to encourage motorists to drive more cautiously, keep within the 20mph

limit and pay attention to pedestrians. Exhibition Road was a RIBA award winner in 2012 and is often presented as a triumph for the 'shared space' movement, whereby pedestrians, cyclists and vehicles all occupy the same surface, leading to more responsible and mindful behaviour (cf. Niedderer, Chapter 9).

Case study 6: Social media and user behaviour

This case looks at how the modern graphical user interface is changing how people socialise and interact, with potentially both positive and negative outcomes. The modern graphical user interface (GUI) is an excellent example of human centred design principles combined with applied psychology to guide and influence user behaviour. Designing the GUI is an important part of software development, from operating systems to car sat navs and mobile apps, to ensure the visual language is well tailored to the tasks people wish to perform.

The development of social media has allowed people to create and share a vast array of information and user-generated content at the touch of a button. The resulting shifts in human behaviour have led to debates on the positive and negative effects. This is amply evident through cases such as the Facebook news feed experiment, where the absence of positive social norms led to unintended offence, because of unacknowledged conflicting goals (Kramer, Guillory, & Hancock, 2014).

It can be argued that social media has many benefits, including allowing the democratisation of the internet, news dissemination and supporting communication during protests and revolutions. On the flip side, it has also been associated with shortening attentions spans, narcissistic personality traits and low self-esteem (Forest & Wood, 2012). There are also privacy and trust issues around how much companies are using data on user behaviour to further their commercial aims without user consent.

Discussion and Conclusion

This chapter has discussed the role of design for behaviour change within, and its impact on social contexts. It has offered an overview of current understandings of social design in relation to behaviour change to define what we mean by design for social behaviour change (also: social design for behaviour change, or short: social design). This understanding has shown to encompass three stages or characteristics of social design: concept, process and outcome, which have been discussed and illustrated through two short case studies for each. In the remainder of this chapter, we consider the relationship of these three categories or stages, and the role and relationship of designers and stakeholders.

Having discussed the three categories, or stages, of social design, the question is how they relate. Dependent on whether one sees these as stages or categories, the answer will differ. As stages, it seems fairly straight forward: the concept provides the perspective to the approach applied, and the process informs and implements the concept in form of the outcome. This may be in the order concept, process, outcome, but the stages may also be iterative or concurring at times.

As categories, the question changes to asking more specifically about the inter-relationships and whether they can be independent. Social design intentions normally lead to a social output or outcome as intentions drive behaviour. Such outcomes may however be achieved without using social design processes as the boundaries between designers and stakeholders are getting blurred, and many people express these beliefs without calling themselves designers. Such outputs may also be created to serve a different purpose and any social outcome may be unintentional. However, as discussed throughout the chapter, and indeed this book, it seems desirable not to leave such important issues and influences to

chance, and therefore it is important for any designers or other stakeholders to take a holistic view that considers the range of aspects influenced by their actions or designs. To implement social design intensions, and achieve social design outcomes, it is not necessarily required to use social design processes. Neither does the use of social design processes necessarily lead to a social output or outcome: People and companies may use the processes for purely commercial aims and have no social intention.

In answer to the above question, one might therefore say that social design involves a social intent turning into social outcome, by some kind of process, which may, but doesn't have to, be moderated by social processes. Nevertheless, the use of social processes has the benefit of giving a voice to stakeholders who may have an interest in the outcomes, making design more inclusive and democratic. This is important, because products, services and spaces are often created without understanding how and why people will interact with them, or how it will affect and effect social interactions.

This example demonstrates once more that people may attempt to ignore design, but they cannot ignore the role of design in influencing behaviour and social interactions. People who understand and embrace social design are more likely to create an output that is in the interest of the people they are trying to benefit. People who do not, will not be avoiding social design, but be inventing their own principles that may be to the detriment of the people they are trying to benefit. Whether or not the social intentions of the designer are in line with the perceived wants or needs of the user depends on individual principles and the processes employed. Ultimately this will be judged by the people concerned, and whether they experience the desired increases in social interaction and wellbeing. The complexity of issues facing society combined with the need to save public money demands new approaches from the ground up. Social design can help anybody with social intentions play a part in designing the future and thus can help place people back at the heart of development.

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